Date: User: Monday, 02/06/2008 1:54:18 PM

Julie Lecocq

Process Sheet

Customer

: CU-DAR001 Dart Helicopters Services

S.O. No. :

Job Number

: 39643

Estimate Number

P.O. Number

This Issue

: 02/06/2008

Prsht Rev.

: NC

First Issue **Previous Run** : //

: 11489

: SMALL /MED FAB Type

: 35324

Written By Checked & Approved By

Comment

: Est Rev: A

05.12.15 New Issue

Drawing Name

Part Number

: D2003027 · UNDER-REVIEW

: TUBE ASSEMBLY

Drawing Number Project Number

: B **Drawing Revision**

Material **Due Date**

: 03/06/2008

5 Um:

Each

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

M6061T6T0500W035

6061-T6 Tube .500 x.035W



Comment: Qty.:

0.6999 f(s)/Unit Total:

3.4997 f(s)

Material: 6061-T6 tubing Ø 0.500" x 0.035" wall

(M6061T6T0.500W.035)

Batch:

2.0

Comment: SMALL & MEDIUM FAB RESOURCE 1

Form tube as per template D2003-027

Comment: INSPECT WORK TO CURRENT STEP

INSPECT WORK TO CURRENT STEP



4.0

3.0

M26506

QC5

Firesleeve-crkl .375IDia



M2650-6

Total:

3.1715 f(s)

Comment: Qty.: 0.6343 f(s)/Unit Firesleeve-crkl .500IDia

Qty Part Number Description

Batch M 107746 Heat Sleeve



FF 08-06-11

5.0

MS208198D

1

Comment: Qty.:

Pick:

2.1000 Each(s)/Unit Total: 10.5000 Each(s)

Part Number Description

Batch

Page 1

Form: rprocess

08-06-05

| | 1 | | | | | | | | | | | | |
|---------|------|--------------------|----------------------|------------------------------|----------------|-------------|------|-------------------------------------|--------------------------|--|--|--|--|
| W/O: | | WORK ORDER CHANGES | | | | | | | | | | | |
| DATE | STEP | PRO | CEDURE CHAI | NGE | Ву | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector | | | | |
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| Part No | : | PAR #: | Fault Cateç | Jory: | NCR: Yes | No DQA: | | Date: _ | £' | | | | |
| | | | | | | I/C Closed: | | | | | | | |
| NCR: | | V | VORK ORDE | R NON-CONFORMA | NCE (NCF | ₹) | | | | | | | |
| DATE | OTED | Description of NC | | Corrective Action Section | | Verificat | tion | Approval | Approval | | | | |
| DATE | SIEP | TEP Section A | Initial Chief Eng | Action Description Chief Eng | Sign 8 Date | Section | | Chief Eng | QC Inspector | | | | |
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Date: Monday, 02/06/2008 1:54:18 PM User: Julie Lecocq **Process Sheet** Drawing Name: TUBE ASSEMBLY Customer: CU-DAR001 Dart Helicopters Services Job Number: 39643 Part Number: D2003027 Job Number: Seq. #: Machine Or Operation: Description: M101840 2 MS20819-8D Sleeve FF 08-06-11 AN8188D Nut 6.0 Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s) Pick: Qty Part Number Description FF 08-06-11 2 AN818-8D 7.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1 Comment: SMALL & MEDIUM FAB RESOURCE 1 Cut tube 7.38" long as per Dwg D2003 Cut Heat sleeve 7.25" long as per Dwg D2003. Install Red decal and heat shrink FF 08-06-11 Assemble as per Dwg D2003 8.0 INSPECT WORK TO CURRENT STEP QC5 Comment: INSPECT WORK TO CURRENT STEP 9.0 PACKAGING 1 **PACKAGING RESOURCE #1** Comment: PACKAGING RESOURCE #1 Identify and Stock 518 Location: 10.0 QC21 Comment: FINAL INSPECTION/W/O RELEASE Job Completion

Form: rprocess

Page 2

| W/O: | | WORK ORDER CHAN | IGES | | | | - |
|---------|------|------------------------|----------|-------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | Ву | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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| Part No | | PAR #: Fault Category: | NCR: Ves | No DO | ۸٠ | Date: | |

| Part No: | _ PAR #: | Fault Category: | NCR: Yes No | DQA: | Date: |
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| • | | | QA: N/C | Closed: | Date: |

| | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | | | | | |
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| | Description of NC | | Corrective Action Section B | | Varification | Annroval | Approval | | | | |
| STEP | STEP | ATE STEP | ESIEP | Section A | Initial Chief Eng | Action Description Chief Eng | Sign & Date | Section C | Chief Eng | QC Inspector | |
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| | STEP | STEP Description of NC Section A | STEP Description of NC Section A Initial Chief Eng | STEP Description of NC Section A Initial Chief Eng Corrective Action Section B Action Description Chief Eng | STEP Description of NC Section A Initial Chief Eng Corrective Action Section B Initial Chief Eng Chief | STEP Section A Initial Chief Eng Chief Eng Section C Section C Section C | STEP Description of NC Section A Initial Chief Eng Corrective Action Section B Initial Chief Eng Chief Eng Corrective Action Section B Verification Section C Approval Chief Eng Chie | | | | |





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|---|-------|--------------------|----------|---|
| | DESIG | 4 | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA |
| | CHEC | KED | APPROVED | DRAWING NO. REV. B |
| | 4 | 16 | 1 7 | D2003 SHEET 1 OF 2 |
| | DATE | , | | TITLE SCALE |
| _ | 99.0 | 06.08 | | 206 CABIN HEATER TUBE ASSEMBLIES NTS |
| | Α | | 90.04.09 | NEW ISSUE |
| | В | | 99.06.08 | UPDATE PER TEMPLATES; ADD P/N'S; |

RELEASED 44.06.09 KED

UNDER REVIEW

\$06.06.02

| | · | | | | , | , | | | | | | |
|------------------------|--------------|----------------------|------------------------------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|------------|---|--|
| P/N | TEMPLATE | HEATSLEEVE LENGTH | CUT LENGTH OF TUBE ² | MS20819-8J SLEEVE | AN818-8J NUT | MS20819-8D SLEEVE | AN818-8D NUT | MS20819-6D SLEEVE | AN818-6D NUT | DESC. | MATERIAL ^{4/8/7} | VENDOR OR SPEC |
| D2003-001 | T2003-001 | 5.2 | 6.00 | | 1 | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-003 | T2003-003 | 7.3 | 8.12 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-005 | T2003-005 | 9.8 | 10.62 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-007 | T2003-007 | 20.0 | 19,63 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-009 | T2003-009 | 12.38 | 12.44 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-011 | T2003-011 | 33,31 | 32.38 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0,035 W | WW-T-700/6 |
| D2003-013 | T2003-013 | 12.7 | 13.54 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-015 | T2003-015 | 17.2 | 18.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-017 | T2003-017 | 17.0 | 16.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-019 | T2003-019 | 9.8 | 10.62 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0,500 OD x 0,035 W | WW-T-700/6 |
| D2003-021 | T2003-021 | N/A | 2.25 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0,500 OD x 0,035 W | WW-T-700/6 |
| D2003-023 | T2003-023 | 4.5 | 5.33 | | ž. | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-025 | T2003-025 | 9.8 | 10.60 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-027 | T2003-027 | 7.25 | 7,38 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0,035 W | WW-T-700/6 |
| D2003-029 | T2003-029 | 17.2 | 18.00 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-031 | T2003-031 | 14.6 | 15.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-033 | T2003-033 | 29.75 | 29.62 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-035 | T2003-035 | 24.7 | 27.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-037 | T2003-037 | 24.81 | 23.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-039 | T2003-039 | 34.0 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-041 | T2003-041 | 6.0 | 5.88 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-043 | T2003-043 | 11.7 | 10.75 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-045 | T2003-045 | 3.50 | 2.44 | 2 | 2 | | | | - | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-047 | T2003-047 | 5.56 | 5.56 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-049 | T2003-049 | 33.2 | 34,00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AISI 304 |
| D2003-077 | T2003-049 | N/A | 6.25 | | | | | 1 | 1 | JET | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-077 | T2003-077 | 13.25 | 13.13 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-101 | T2003-101 | 12.38 | 12.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-105 | T2003-105 | 10.75 | 10.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-103 | T2003-103 | 12.75 | 12.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-107 | T2003-107 | 8.25 | 8.125 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600/6 |
| D2003-109 D2003-111 | T2003-109 | 4.75 | 4.625 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600/6 |
| D2003-111 D2003-116 | T2003-111 | 4.75 | 4.020 | | | _== | | | | HEATSLEEVE | M2650-20 CRINKLE-SOFT | STRATOFLEX |
| D2003-116 D2003-120 | T2003-116 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-120 D2003-14 | T2003-120 | 4.0 | | | | | | | | HEATSLEEVE | M2650-14 CRINKLE-SOFT | STRATOFLEX |
| D2003-14 D2003-16 | T2003-14 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-16 D2003-205 | T2003-16 | 9.75 | 9.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 WH | |
| D2003-203 D2003-207 | T2003-205 | 3.75 | 3.75 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W _F | |
| DZ003-201 | 12003-201 | 3./5 | 3.75 | | | | | | | 100E M33 Y | | |
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SUBJECT TO AMENDMENT

WITHOUT NOTICE

WORK ORDER

| W /O: | | WORK ORDER CH | ANGES | | | | |
|--------------|------|---------------------------------------|----------|-------|------------|-------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | Ву | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
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| Part No | : | PAR #: Fault Category: | NCR: Yes | No DQ | A : | Date: | |

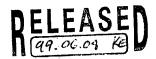
QA: N/C Closed: ____ Date: ___

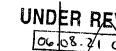
| NCR: | • | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | | | | |
|------|------|-------------------|----------------------------------|------------------------------|----------------|--------------|-----------------------|--------------------------|--|--|--|--|
| | | Description of NC | | Corrective Action Section B | | Verification | Approval Chief Eng | Approval QC Inspector | | | | |
| DATE | STEP | Section A | Initial Chief Eng | Action Description Chief Eng | Sign & Date | Section C | | | | | | |
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| | DESIGN | DRAWN BY | • • • • • • | AEROSPA KESBURY, ONTARIO, | | |
|---|----------|---------------------------------------|-------------|------------------------------|--------------|------|
| ļ | CHECKED | APAROVED | DRAWING NO. | | REV. | В |
| | 46 | 14 | D2003 | | SHEET 2 OF | 2 |
| | DATE | · · · · · · · · · · · · · · · · · · · | TITLE | | SCA | VLE. |
| | 99.06.08 | | 206 CABIN H | EATER TUBE | ASSEMBLIES N | πs |

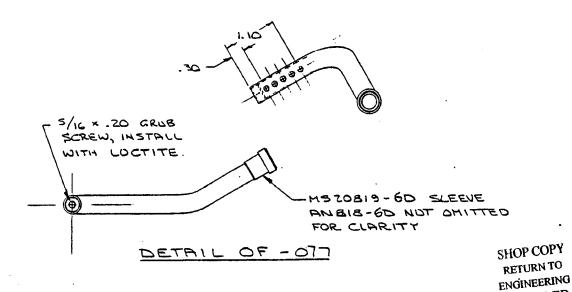




\$08-06-02

Notes:

- (1) USE STRATOFLEX M2650-6 CRINKLE-SOFT HEATSLEEVE.
- (2) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATES.
- (3) TUBES TO BE FLARED 30° TO MATE WITH FITTINGS MADE TO MS33514.
- (4) ENSURE SEAMLESS TUBING IS USED.
- (5) INSTALL HEATSLEEVE OVER ALL TUBES WITH A DESIGNATED LENGTH OF HEATSLEEVE PER THE PARTS LIST.
- (6) 5052 (WW-T-700/4) TUBING MAY BE SUBSTITUTED WHEN 6061 TUBING IS NOT AVAILABLE.
- (7) 0.049 WALL THICKNESS CRES TUBING MAY BE SUBSTITUTED WHEN 0.035 IS NOT AVAILABLE.
- (8) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.



| W/O: | | WORK ORDER O | HANGES | . . | | *** | |
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| DATE | STEP | PROCEDURE CHANGE | Ву | Date | Date Qty | Approval Chief Eng / Prod Mgr | Approva QC Inspecto |
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| Part No: | PAR #: | Fault Category: | NCR: Yes No | DQA: | Date: |
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| | | | QA: N/C C | losed: | Date: |

| NCR: | | | WORK ORD | ER NON-CONFORMAN | CE (NCR) | | | |
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| | | Description of NC | | Corrective Action Section B | Verification | Approval | Annroyal | |
| DATE | STEP | Section A | Initial Chief Eng | Action Description Chief Eng | Sign & Date | Section C | Chief Eng | Approval QC Inspector |
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